AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. A complete listing of the claims, including their current status identifier, is set forth below.

1-36. (Cancelled)

37. (New) A method of screening, comprising:

introducing a library of at least 10^3 vectors encoding different candidate agents into a population of mammalian cells grown *in vitro*;

subjecting the population of cells to a physiological signal that stimulates a phenotype in cells of the same type in the absence of the candidate bioactive agents;

sorting the individual cells in the population on the basis of at least three optical properties by fluorescent activated cell sorting (FACS),

identifying a cell having a phenotype that is altered relative to other cells in the population; and

sequencing the nucleic acid encoding said candidate agent in said cell that has an altered phenotype, thereby identifying said candidate agent in said cell.

38. (New) The method of claim 37, wherein sad physiological signal is an exocytic inducer, a hormone, an antibody, a peptide, an antigen, a cytokine, a growth factor, an action potential or other cells.

39. (New) The method of claim 38, wherein said exocytic inducer is Ca^{++} or ionomycin.

40. (New) The method of claim 37, wherein said at least three optical properties comprise at least one optical property selected from the group consisting of: light scattering, and fluorescent dye uptake, fluorescent dye release and binding of a fluorescent antibody.

41. (New) The method of claim 37, wherein said library is of at least 10^6 vectors in size.

42. (New) The method of claim 37, wherein said cells are cultured cells.

43. (New) The method of claim 37, wherein said vector is a retroviral vector.

44. (New) The method of claim 37, wherein said candidate agent is a peptide.